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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,379	07/03/2003	Satyadev R. Patel	P108-US	7206
26148	7590	07/14/2004	EXAMINER	
REFLECTIVITY, INC. 350 POTRERO AVENUE SUNNYVALE, CA 94085			TRA, TUYEN Q	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/613,379	Applicant(s) PATEL ET AL.	
	Examiner Tuyen Q Tra	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
 4a) Of the above claim(s) 46-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,11,12,14-16,18-24,26,27,31-34,36-41,43 and 44 is/are rejected.
- 7) ☒ Claim(s) 2, 10, 13, 17, 25, 28, 29, 30, 35, 42 and 45 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0603</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-45, drawn to micromirror device, classified in class 359, subclass 290.
 - II. Claims 46-54, drawn to method for fabricating the optical device, classified in class 438, subclass 29.
2. The inventions are distinct, each from the other because of the following reasons;

Invention I relates to apparatus of an optical system while invention II relates to method for fabricating using chemical processes.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Gregory Muir on June 21, 2004 a provisional election was made with traverse to prosecute the invention of group I, claims 1-45. Affirmation of this election must be made by applicant in replying to this Office Action. Claims 46-54 are nonelected from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Oath/Declaration

1. The declaration filed 06/18/03 is acceptable.

Drawings

2. The Drawings filed on 06/18/03 have been declared informal by the examiner.

Claim Objections

3. Claim 1, line 6 and Claim 34, line 9, "pate" should be --plate -- or appropriate correction is needed.

Claims 14 and 15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim 13. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 recites the limitation "a second gap" in line. There is insufficient antecedent basis for this limitation in the claim since there is not any first gap introduced in claim 1. To overcome this rejection, claim 3 should be depend on claim 2. Or an appropriate correction is required.

Claim 19 recites "the first and second electrode". There is insufficient antecedent basis for this limitation.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3-9, 11, 12, 14-16, 18-24, 26, 27, 31-34, 36-41, 43 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al. (U.S. Pat. 5,661,591 A).

a) With respect to claim 1, Lin et al. discloses a biased rotatable combdrive devices and methods in Figure 10 comprising a substrate (102); a hinge (item 106) and a hinge support (item 114) connected to the substrate (102); a movable reflective mirror plate (item 132), wherein the hinge 106) is attached to the mirror plate at a first location on the mirror plate via a member (item 110); and an extension plate (item 134) connected to the mirror plate at a second location on the mirror plate via member (item 136) (see Fig. 10).

b) With respect to claim 16, Lin et al. discloses a biased rotatable combdrive device and methods in Figure 10 comprising of a substrate (item 102); a reflective mirror plate (item 132) connected to the substrate (102) via a hinge (item 106) and a hinge support (114) and held by the hinge and the hinge support on the substrate; and an extension plate (item 134) connected to the mirror plate (item 132) and connected to the substrate (102) via the mirror plate (132), the hinge (106) and the hinge support (114).

c) With respect to claims 31, Lin et al. discloses a biased rotatable combdrive device and methods in Figure 10 comprising of a substrate (item 102); a hinge (item 106) and a hinge support (114) connected to the substrate (102); a reflective mirror plate (item 132) attached to the hinge (106) at an attachment point via a member (item 110) that is located away from a diagonal

of the mirror plate (132) when viewed from the top of the substrate (102); and an extension plate (item 134) connected to the mirror plate (132).

d) With respect to claims 34, Lin et al. discloses a biased rotatable combdrive device and methods in Figure 10 comprising of an array of micromirrors (item 132) that selectively reflect light from the light source, each micromirror (132) further comprising: a substrate (item 102); a hinge (item 106) and a hinge support (item 114) connected to the substrate (102); a movable reflective mirror plate (item 132), wherein the hinge (106) is attached to the mirror plate (132) at a first location via a member (item 110) on the mirror plate; and an extension plate (item 134) connected to the mirror plate at a second location via a member (item 136) on the mirror plate (132). Lin et al. does not implicitly disclose a light source; a set of optical elements for directing light from the light source onto the spatial light modulator and projecting the reflected light from the micromirrors onto a display target, but it would be inherent to the display device since these common parts are normal to most of projection system.

e) With respect to claims 3, 18 and 36, Lin et al. further disclose wherein the extension plate defines a second gap between the extension plate and the substrate.

g) With respect to claims 4, 19 and 37, Lin et al. further disclose wherein the an electrode disposed on another substrate and placed proximate to the extension plate such that a first electrostatic field can be established between said electrode and the extension plate; and wherein the extension plate defines a third gap between the extension plate and the substrate on which the electrode is disposed.

h) With respect to claims 5, 20, 32 and 38, Lin et al. further disclose wherein the extension plate is on the opposite side of the mirror plate to the substrate.

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- i) With respect to claims 6, 21, 33 and 39, Lin et al. further disclose wherein the extension plate is electrically conducting.
- k) With respect to claims 7 and 22, Lin et al. further disclose wherein the extension plate is dielectric with a dielectric constant larger than 1.0.
- l) With respect to claims 8, 23 and 40, Lin et al. further disclose wherein the extension plate is extended beyond the mirror plate.
- m) With respect to claims 9, 24 and 41, Lin et al. further disclose the mirror plate is attached to the hinge such that the mirror plate rotates along a rotation axis that is parallel to but offset from a diagonal of the mirror plate when viewed from the top of the substrate.
- o) With respect to claims 11, 26 and 43, Lin et al. further disclose a first electrode placed proximate to the extension plate such that a first electrostatic field can be established between the first electrode and the extension plate, and the mirror plate rotates relative to the substrate in response to the first electrostatic field in a first rotational direction.
- p) With respect to claims 12, 27 and 44, Lin et al. further disclose a second electrode placed proximate to the mirror plate such that a second electrostatic field can be established between the mirror plate and the second electrode, and the mirror plate rotates relative to the substrate in response to the second electrostatic field in a second rotation direction that is opposite to the first rotation direction.
- q) With respect to claim 14, Lin et al. further disclose wherein the first electrode is on a substrate other than the substrate to which the hinge support is connected; and wherein the second electrode is on the substrate to which the hinge support is connected.

t) With respect to claim 15, Lin et al. further disclose wherein the second electrode is an electrode film on a surface of the substrate to which the hinge support is connected.

Allowable Subject Matter

7. Claims 2, 10, 13, 17, 25, 28, 29, 30, 35, 42 and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reason for the indication of allowable subject matter is that (claims 2, 17, 35) extension plate defines a first gap between the extension plate and the mirror plate; and wherein the extension plate is connected to the mirror plate via a post; (claims 29, 30) the first electrode is on a substrate other than the substrate to which the hinge support is connected; and wherein the second electrode is on the substrate to which the hinge support is connected; (claims 13, 28, 45) the first electrode and the second electrode are on a substrate other than the substrate to which the hinge support is connected. disclosed in the claims is not found in the prior art.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (571) 272-2343. The examiner can normally be reached on Monday to Thursday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps, can be reached on (571) 272 - 2328. The fax number for this Group is (703) 872-9306.

tt

June 21, 2004


Hung Xuan Dang
Primary Examiner